

**QUALITY ASSURANCE PROVISIONS (QAP)
FOR THE
FIN ASSEMBLY, CONICAL, MK 84 MOD 0**

**QAP 1380529
Rev. H
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I. QUALITY SYSTEM REQUIREMENTS

- A. The Contractor shall implement and maintain a quality system meeting the requirements of ISO 9001:2008 or AS9100C (only design/development exclusions permitted). The quality system shall also implement the following provisions:
1. Subcontractors producing critical and/or major characteristics shall have a quality system compliant to ISO 9001:2008 or AS9100C (only design/development exclusions permitted).
Note: Throughout this QAP, Subcontractor means any supplier of materials, components, or services other than the Prime Contractor. Subcontractors are also required to meet all the contractual requirements.
 2. When property is furnished by the Government, the Contractor shall implement the following:
 - a. Examination upon receipt, consistent with practicality, to detect damage upon transit;
 - b. Inspection for completeness, quantity, and proper type;
 - c. Periodic inspection and precautions to assure adequate storage conditions and to guard against damage from handling and deterioration during storage;
 - d. Identification and protection from improper use or disposition.
 3. Process and Production Control conditions shall include:
 - a. Documented manufacturing planning for the implementation and control of manufacturing operations. The planning shall include: a description of operations, facility, environmental equipment, and tooling requirements, associated controls, and a process flow chart to portray the process of fabrication and assembly in terms of key operations.
 - b. Accountability for all products.
 - c. Evidence that all manufacturing, test, and inspection operations have been completed in sequence, as planned, or as otherwise documented and authorized.
 - d. Preparation of documented process monitoring, accountability, and operator instructions for all processes that affect product quality. These instructions are to be accessible at the point where work is performed and shall, as a minimum, contain reference to the following: workmanship standards, manufacturing aids, step-by-step instructions for performing operations, equipment or tools required, special conditions to be maintained, identification of special handling devices, and methods for recording completion of operations.
 4. Control of nonconforming material shall include:
 - a. Controls applied to suspect product as well as to nonconforming product.
 - b. The proposed use or repair of product that does not conform to specified requirements shall be submitted to the Government prior to use or repair. Rework and repair shall be in accordance with applicable contract clause. Repetitive nonconformances will not be approved.
 - c. The Contractor shall immediately notify the Government when a nonconformance is found in the Contractor's processes or products that may affect product already delivered.
 1. In the event there is a nonconformance of a major or critical characteristic found during the production, the DCMA shall immediately be notified.
 2. The contractor shall control the nonconformance in accordance with their quality system.
 3. Root cause/corrective action shall be performed on the process to prevent reoccurrence. The corrective action procedure must be accepted by the Government before production can restart, unless the government authorizes interim procedures while root cause/corrective actions are determined/implemented.
 5. Corrective action shall be required of a Subcontractor when it is determined that the root cause of the nonconformity is the responsibility of the Subcontractor.
 6. Internal audits shall cover all quality management related processes, activities, and shifts, and shall be scheduled according to an annual plan.
- B. The above provisions shall be addressed in the Quality Program Plan.

II. QUALITY PROGRAM PLAN

- A. The Contractor shall prepare a Quality Program Plan (QPP) in accordance with the applicable Contract Data Requirements List (CDRL) and DID. The QPP shall provide traceability from the specific quality elements of the contract to the specific Contractor resources (systems, processes, personnel, etc.) that support those elements. The QPP provides the Government a basis for assessment of the quality system and evidence of the Contractor's intent to comply with the contract quality requirements.
1. The QPP shall identify the means by which the Contractor will ensure quality system effectiveness and demonstrate comprehensive management and review of data, such that the results may be used to indicate

trends and progress in quality processes, fabrication, assembly, test, and acceptance as appropriate to the contract. The QPP shall describe what is measured, how often it is tracked, and who reviews and assures that appropriate action is initiated when trends are unfavorable.

2. A copy of the Contractor's Quality Manual that describes the current quality system shall be attached.

III. Inspection and Test Plan

- A. The Contractor shall prepare an Inspection and Test Plan (ITP) in accordance with the applicable CDRL. The plan(s) shall be approved by the Government prior to production and acceptance of product since the ITP represents the inspection methods for final acceptance. The plan(s) is subject to disapproval when it does not achieve its intended objective of preventing acceptance of nonconforming material. The contractor shall be responsible for any delays resulting from the late presentation of the plan(s) to the government for review and approval and any delays resulting from the presentation of inadequate or unacceptable plan(s).

The ITP shall address First Article, Preproduction, and Lot Acceptance inspection and test requirements in the following format:

1. General: The ITP shall, at minimum, contain the following:
 - a. Cover sheet identifying item, contract number, and revision letter and date of the plan.
 - b. **ALL** of the inspections and tests required for acceptance of the item, documented in accordance with the requirements herein. This includes NDT procedures and Welder certification procedures.
 - c. A section of the ITP for inspection and test equipment maintenance, recertification, and recalibration, documented in accordance with the requirements herein.
2. Documenting Tests and Inspections: For each required inspection or test, including those inspections or tests that are contained in specifications, specific instructions shall be prepared and shall contain the following:
 - a. Identification of the item to be inspected and/or tested, including part number, revision letter, and nomenclature.
 - b. The location of the characteristic, to include the drawing sheet and zone, a brief description of the characteristic, and for classified characteristics, the classification callout.
 - c. Criteria for passing or failing the inspection or test (such as the high and low limit for a particular dimension, a particular minimum tensile strength, minimum voltage, etc.).
 - d. Details of the sampling plan to be used, including, as applicable, lot size, sample size, and verification levels.
 - e. Identification of inspection and test equipment using appropriate identification data visible on the equipment. Standard instruments such as a caliper or micrometer do not require an individual identification description and can be identified simply as "caliper" or "micrometer."
 - f. A written procedure for performing the inspection or test when the characteristic is other than a simple dimension, which is measured by the use of a standard instrument such as a caliper or micrometer. The procedure may be placed in an appendix of the plan and referenced if the procedure is lengthy or repeatedly used.
 - g. If a Coordinate Measuring Machine (CMM) is used to check Classified Characteristics, describe how the datums were picked up and how each feature is picked up by the CMM. Include the amount/location of probe hits to establish datums and any axis necessary to adequately inspect the feature. For all other characteristics checked with a CMM identify simply as CMM.
 - h. The manner in which the result of the inspection or test is to be recorded, such as a particular data sheet. Identify the information to be recorded for each inspection or test, to include but not limited to traceability to item and inspection or test characteristic, inspection or test data to be recorded (attribute or variable data for each reading), traceability to inspection or test equipment, and pass/fail disposition.
3. Inspection and Test Equipment Maintenance, Recertification, and Recalibration Schedule:

The Contractor's calibration system shall be in accordance with ANSI/NCSL Z540.3-2006 or ISO 10012.

A separate section, or attachment to the ITP shall address inspection and test equipment maintenance, recertification, and recalibration. For each acceptance gage, or other measurement device (including standard measuring instruments) used for final acceptance, the following information shall be documented:

 - a. A description of the gage or measuring device, including identification data visible on the equipment.
 - b. A schedule for recertification of the gage or measurement device in terms of gage passes or time limit.
 - c. Inspection and test equipment used for acceptance of CRITICAL and MAJOR characteristics shall require design approval in accordance with applicable CDRL. A copy of the approval shall be included. Inspection and test equipment used for acceptance of other characteristics (i.e., MINOR) shall require approval in accordance with applicable CDRL. A copy of the approval shall be included.
4. The above format shall be used for all required inspection and tests regardless of whether the inspections or tests are performed by a Subcontractor. When inspections or tests are performed by a Subcontractor, all of the above information shall be provided by the Subcontractor or obtained by subsequent receipt test or inspection or final acceptance by the Prime Contractor. When inspections or tests are performed by a Subcontractor, the Prime

Contractor shall review the relevant specifications and create a receipt inspection or test review sheet to review the Subcontractor's inspection and test data to ensure conformity to contractual requirements. In-process or statistical production inspections and tests, which are used for purposes of manufacturing material, which will later be verified by an acceptance inspection or test, need not be documented in the plan.

- B. Approved inspection and test equipment shall be made available for use by the Government when required to determine conformance with contract requirements. If conditions warrant, Contractor personnel shall be made available for operation of such devices and for verification of their accuracy and condition.

IV. STATISTICAL PROCESS CONTROL PROGRAM

The Contractor's implementation of the Statistical Process Control program (SPC) shall be documented in accordance with the applicable CDRL, and contract clauses.

V. INSPECTION AND TEST SAMPLING REQUIREMENTS PER MIL-STD-1916

- A. MIL-STD-1916 Sampling Requirements:
1. Characteristics classified on the drawings or in separate documents as CRITICAL shall be verified 100%.
 2. Characteristics classified on the drawings or in separate documents as MAJOR shall be verified by characteristic using MIL-STD-1916, Verification Level (VL)-IV, Table II.
 3. Characteristics classified on the drawings or in separate documents as MINOR shall be verified by characteristic using MIL-STD-1916, Verification Level (VL)-II, Table II.
 4. Table II lot inspections may be performed during the production process as lots are being formed when it is not practical to form lots prior to taking samples.
 5. Use of Table III or Table IV shall require Government approval and will be based on the contractor meeting the criteria set forth in MIL-STD-1916.

Notes:

1. The above criteria will apply except where sampling plans and acceptance criteria appear in the product and/or affiliated specifications, or where authorization to deviate from these requirements has been obtained in accordance with contract requirements.
2. Switching from normal to reduced inspection per MIL-STD-1916 shall be approved by the Government prior to implementation. Reduction of test and inspection requirements is defined in section VII of the QAP and contract.
3. Characteristics other than product attributes-processing requirements specified on drawings that are classified as CRITICAL, MAJOR, or MINOR are exempt from the inspection and test sampling requirements of the plans above (section IV). However, these processes shall be controlled in accordance with the inspection system and/or quality program requirements of the contract.
4. Due to 100% inspection of Critical Characteristics being required, Contractors are not required to meet Paragraph 4.4 of MIL-STD-1916.

VI. ACCEPTANCE REQUIREMENTS

- A. The Contractor shall perform first article, preproduction, and production inspection and tests as described herein.
1. First article and preproduction components and completed units shall be representative of items to be manufactured during rate production using the same manufacturing facilities, flow processes, procedures, and controls planned for use during rate production. Likewise, inspection and test of first article and preproduction components and completed units shall be performed using the same methods and equipment scheduled for use during rate production.
 2. Materials, design, and construction shall be in accordance with the requirements as defined by the contract. The Contractor shall demonstrate by means of certification that only materials and components conforming to the contract requirements have been used. The Certificate of Conformance (CoC) shall reference all specifications and requirements called out on the drawing (examples include, but are not limited to, raw material, heat treatment, and coatings). The CoC shall also list all specification requirements (examples include, but are not limited to, material chemical composition, mechanical properties, hardness, coating thickness, and environmental tests if required). Traceability of the CoC must also be maintained from initial purchase, through all subsequent processes, including final inspection (lot acceptance) at the manufacturing facility. Traceability should include invoices showing transfer of material at all steps until the final product. Purchase orders and receiving records should not be included as part of a certificate of conformance unless they are necessary to link the traceability back to the requirement.

3. First Article and Preproduction Approval:

- a. If the sample passes the criteria established in the inspections, tests and verification, it will be approved. If the sample fails any of the specified inspections and tests, the results will be evaluated by the Government Engineering Activity. These results, together with the Government engineering analysis of the sample, shall form the basis for corrective action by the Contractor. Depending upon the degree of corrective action deemed necessary by the Government, approval may be:
 1. Granted, in which case the Contractor shall have first made the changes required by the Government prior to the start of regular production (or preproduction).
 2. Withheld, and new sample shall be submitted for approval in place of the failed sample. The sample shall be subjected to the examinations and tests in which the failures occurred and any other examinations and tests of the first article inspection as required by the Procuring Contract Officer (PCO).
 3. Withheld, and a new sample shall be submitted for approval.

In all cases the Contractor shall comply with the required changes, which are within the scope of the contract requirements to the satisfaction of the Government for future production (or preproduction).

- b. Approval, conditional approval, or rejection of the sample will be given by the PCO. Until the sample is approved, further production (or preproduction) shall be at the risk of the Contractor. The Government will not proceed with acceptance of the production lot until first article and preproduction approval is granted.
 - c. Additional Samples: Additional samples may be required by the PCO as the result of a first article sample failing to meet the contract requirements. Additional samples required as a result of first article or preproduction failure shall be supplied by the Contractor at their own expense.
 - d. Disposition of First Article and Preproduction Sample: All first article samples shall be identified, segregated, and retained by the Contractor and made available to Government representatives, upon request, for the duration of the contract. The Government reserves the right to take FAT samples into permanent possession at any time for the duration of the contract. Final disposition of first article sample will be provided prior to contract completion. Preproduction units successfully passing all required tests and inspections, and approved by the Government, may be delivered under contract, as directed by the PCO.
4. Reinstitution of Inspections or Tests: Acceptance of first article sample shall not relieve the contractor from meeting all contract or purchase order requirements throughout the life of the contract. When evidence shows failure to continue to meet the first article requirements specified herein, the Government reserves the right to require tightened test or inspection on a lot basis, consisting of the reinstitution of such portions of the first article needed to verify the effectiveness of any corrective action.
5. Supplemental First Article Sample: An additional first article sample or portion thereof may be required by the Contracting Officer in writing when:
- a. A major change is made to the technical data package.
 - b. Whenever there is lapse in first article testing, preproduction, or production for period in excess of ninety (90) days.
 - c. Whenever a change occurs in the manufacturing process, material used, drawings, specification, source of supply, process location (including equipment moved within the plant), or inspection processes being performed.

When conditions (a), (b) or (c) above occur, the Government procuring activity shall be notified, in writing. Written approval from the Government procuring activity shall be required prior to the implementation of any of the aforementioned scenarios.

6. All failures occurring during First Article Test, Preproduction, or Lot Acceptance Test shall be reported by the Contractor in accordance with CDRL requirements.
7. At conclusion of first article testing, preproduction, and lot acceptance testing, the Contractor shall prepare test reports in accordance with CDRL requirements. Data generated during inspection and testing will be included with reports.
8. The Contractor is responsible for the performance of all inspections and test requirements herein. However, the Government reserves the right to perform any of the inspections set forth in this QAP where such inspections and test are deemed necessary to assure products conform to the prescribed requirements.

B. First Article Test (FAT)

1. Prior to the start of preproduction, the Contractor shall manufacture and submit a first article sample. First article examinations, tests, and inspections shall be performed at the Contractor's facility, by the Contractor personnel, and witnessed by Government representatives to assure sample conforms to all the requirements specified by the contract (e.g., the ADL, all drawings and related specifications and standards, QAP) and accompanied by verifiable inspection results, certified test reports, material certifications, etc.

2. The first article sample shall consist of:
 - a. Three (3) fin assemblies per drawing 1380529 (completely assembled, treated and painted).
 - b. Three (3) unpainted fin assemblies per drawing 1380529 (completely assembled but unpainted).
 - c. Three (3) complete subassemblies for the fin assembly.
 - d. Three (3) complete sets of component parts
 - e. Powder coat test per WSD-C-0181. All powder coating requirements called out in WSD-C-0181 shall be tested by the contractor, subcontractor, or coating manufacturer. Since this is a WSD spec, there is no governing QPL, and the qualification authority is retained by NAWCWD. All test plans and test data for the required qualification testing will be evaluated for first article.

Zinc phosphate pre-production testing in accordance with TT-C-490 shall be performed by the manufacturer on actual production parts as required by section 4.7.2 of TT-C-490. Adhesion testing and accelerated corrosion testing shall be performed in accordance with sections 4.7.6.3 and 4.7.7 respectively. The powder coating system used on the fin shall be used as the top-coating material and corrosion resistance testing shall be performed for 1000 hours per the requirements of WSD-C-0181. The Contractor shall also submit preproduction validation panels in accordance with TT-C-490 to the Government for independent testing.
 - f. Destructive test samples for Government First Article Verification Test as defined below.
 - g. Two (2) top frame assemblies and two (2) base assemblies per F00-009-5573 completely assembled and finished.
3. In addition to the FAT requirements stated above, and in Table 1, the following additional test are required. First Article destructive test shall be performed by the contractor and witnessed by the Government Technical Team on three (3) additional fully assembled (welded) unpainted bomb fin assemblies (P/N 1380529). The destructive test are limited to the weld and typed specified herein.
 - a. Conical Fin Skin (P/N 1380533) to Ring Adapter (P/N 1380532) Butt Weld.
 1. A butt joint tensile weld shall be performed on three (3) specimens sectioned from each of three (3) fully assembled unpainted bomb fin assemblies (P/N 1380529). The three test specimens shall be sectioned from around the periphery of each bomb fin assembly a minimum of 90 degrees apart. Figure 1 describes the size, quantity, location and method of sectioning the test specimens. Test fixtures should be developed and used to prevent skin bending during testing. Skin bending may impart additional stresses to the weld.
 2. Each specimen shall be subjected to a tensile test at a pull rate of approximately 0.5 inches/minute performed at ambient conditions until failure as illustrated in figure 2. Test specimens shall fail within the parent material and not the weld. A weld failure of any of the specimens is cause for rejection.
 - b. Conical Fin Skin (P/N 1380533) Seam Weld.
 1. One seam design: A seam weld shear test shall be performed on two (2) test specimens from each of three (3) fully assembled unpainted bomb fin assemblies (P/N 1380529). One of the two (2) specimens shall be sectioned close to the adapter ring and the other at the opposite end as shown in figure 3. The test specimens shall not include any individual spot welds used to tack the skin together prior to seam welding, if applicable. Test fixtures may be used to account for skin curvature. This curvature may be straightened prior to testing as long as the weld is not stressed during the straightening procedure. The straightening procedure shall impart no surface defects onto the specimens.
 2. Two seam design: A seam weld shear test shall be performed on Four (4) test specimens from each of three (3) fully assembled unpainted bomb fin assemblies (P/N 1380529). For each seam a specimen shall be sectioned close to the adapter ring and the other at the opposite end as shown in figure 3. The test specimens shall not include any individual spot welds used to tack the skin together prior to seam welding if applicable. Test fixtures may be used to account for skin curvature. This curvature may be straightened prior to testing as long as the weld is not stressed during the straightening procedure. The straightening procedure shall impart no surface defects onto the specimens.
 3. Each specimen shall be subjected to a tensile test at a pull rate of approximately 0.5 inches/minute performed at ambient conditions until failure as illustrated in figure 4. Test specimens shall fail within the parent material and not the weld. A weld failure of any of the specimens is cause for rejection.
4. Test Records: Records of destructive test shall be made available to the Government representatives. All destructive test records shall be maintained for the duration of the contract. The test records as a minimum shall contain The contract order number, drawing number and revision letter, nomenclature, number of specimens tested, identification of FAT samples, sample dimensions prior to test, date of test, failures (if any), conformance/non conformance criteria, failure load of specimen, pull rate during testing (approximately 0.5 inches/minute).
5. Test specimens: Test specimens shall be identified by contract number, and location of where the specimen was taken. All test specimens shall be retained at the contractor's facility and made available to the Government

representative upon request for the duration of the contract. All test records and specimens shall become property of the Government.

C. Preproduction Test

1. Preproduction testing shall not proceed until the FAT is accepted by the Government.
2. Preproduction lot size shall be 25 consecutive units.
3. Inspection and test performed during preproduction shall be in accordance with ADL, QAP, and approved CDRLs.
4. Preproduction acceptance testing shall be witnessed by Defense Contract Management Agency/ Quality Assurance Representative and shall be provided to Government for acceptance.

Any defects in preproduction samples shall be cause for rejection.

D. Lot Acceptance Test (LAT)

1. Rate production shall not proceed until the Government accepts the results of preproduction units as conforming to the requirements of the ADL and QAP.
2. Production lot size shall be no greater than 1 week's production and no less than 1 day's uninterrupted production. Any deviation from the lot size requirements specified above will require a written request and Government approval.
3. Lot acceptance will be conducted by Contractor and/or Defense Contract Management Agency/ Quality Assurance Representative and witnessed by DCMA/QAR.
4. Lot acceptance will be conducted in accordance with the sampling, inspection, and test requirements set forth within the ADL, Drawings, QAP, and the approved CDRLs.
5. Should a failure occur during lot acceptance, the Contractor shall immediately notify, via the DCMA/QAR, the Contracting Office prior to any rework/repair and retest or re-inspection.
6. Lot Acceptance Test and Inspection. Production lot destructive test shall be performed by the contractor and witnessed by the Government QAR on one (1) fully assembled (welded) unpainted bomb fin assemblies (P/N 1380529). The fin assembly shall be randomly selected by the QAR. The destructive test are limited to the weld and typed specified herein.

c. Conical Fin Skin (P/N 1380533) to Ring Adapter (P/N 1380532) Butt Weld.

1. A butt joint tensile weld shall be performed on three (3) specimens sectioned from a fully assembled unpainted bomb fin assemblies (P/N 1380529). The three test specimens shall be sectioned from around the periphery of each bomb fin assembly a minimum of 90 degrees apart. Figure 1 describes the size, quantity, location and method of sectioning the test specimens. Test fixtures should be developed and used to prevent skin bending during testing. Skin bending may impart additional stresses to the weld.
2. Each specimen shall be subjected to a tensile test at a pull rate of approximately 0.5 inches/minute performed at ambient conditions until failure as illustrated in figure 2. Test specimens shall fail within the parent material and not the weld. A weld failure of any of the specimens is cause for rejection.

d. Conical Fin Skin (P/N 1380533) Seam Weld.

1. One seam design: A seam weld shear test shall be performed on two (2) test specimens from a fully assembled unpainted bomb fin assemblies (P/N 1380529). One of the two (2) specimens shall be sectioned close to the adapter ring and the other at the opposite end as shown in figure 3. The test specimens shall not include any individual spot welds used to tack the skin together prior to seam welding if applicable. Test fixtures may be used to account for skin curvature. This curvature may be straightened prior to testing as long as the weld is not stressed during the straightening procedure. The straightening procedure shall impart no surface defects onto the specimens.
2. Two seam design: A seam weld shear test shall be performed on Four (4) test specimens from a fully assembled unpainted bomb fin assemblies (P/N 1380529). For each seam a specimen shall be sectioned close to the adapter ring and the other at the opposite end as shown in figure 3. The test specimens shall not include any individual spot welds used to tack the skin together prior to seam welding if applicable. Test fixtures may be used to account for skin curvature. This curvature may be straightened prior to testing as long as the weld is not stressed during the straightening procedure. The straightening procedure shall impart no surface defects onto the specimens.
3. Each specimen shall be subjected to a tensile test at a pull rate of approximately 0.5 inches/minute performed at ambient conditions until failure as illustrated in figure 4. Test specimens shall fail within the parent material and not the weld. A weld failure of any of the specimens is cause for rejection.
7. Test Records: Records of destructive test shall be made available to the Government representatives. All destructive test records shall be maintained for the duration of the contract. The test records as a minimum shall contain The contract order number, drawing number and revision letter, nomenclature, number of specimens tested, identification of FAT samples, sample dimensions prior to test, date of test, failures (if any),

conformance/non conformance criteria, failure load of specimen, pull rate during testing (approximately 0.5 inches/minute), production lot number and size.

8. Test specimens: Test specimens shall be identified by contract number, and location of where the specimen was taken. All test specimens shall be retained at the contractor's facility and made available to the Government representative upon request for the duration of the contract. All test records and Specimens shall become property of the Government.
- E. A Quality System Review concurrent with production, preproduction test/inspection, or first lot acceptance test may be conducted to evaluate the Contractor's processes and procedures inherent to the quality of items to be delivered under this contract. The review shall be conducted by Government representatives designated by the PCO.

VII. TEST AND INSPECTION REDUCTION OR ELIMINATION

- A. The Government will consider reduction or elimination of selected acceptance test or inspection based upon first article, preproduction, and LAT results when supported by evidence of both process stability and capability. Contractor written requests shall be made through the Procuring Contracting Officer to the Contracting Officer. Approval will be based upon the Contractor's QPP, SPC, and implementation and validation of the process control techniques and corresponding results.
- B. Product quality is principally the result of process design and control. As such, the Contractor shall develop process and product control methods that limit product variation and provide evidence of product conformance. Process control techniques include, but are not limited to: calibrated and controlled tooling, Computer Numerical Control (CNC) machining, set-up verification, and statistical process control. Based on process control techniques, complexity of product characteristics, and length of steady state production, the Contractor shall select product characteristics for potential reduction of reliance on acceptance test and inspection. Government representatives may assist the Contractor during post award, first article, and other technical exchanges to identify product characteristics for potential test and inspection reduction or elimination.
- C. The Contractor may switch from normal to reduced sampling test and inspection in accordance with the contract provisions and Government approval. Further reductions or elimination will be based on the Contracting Officer approval of Contractor written requests. Prior to submitting a written request, the Contractor's QPP, ITP, and SPC shall have been approved by the Government. The Government will consider reduction or elimination of selected acceptance test or inspection based upon the process control evidence provided. As a minimum, documentation submitted for evaluation should address the following:
 1. Identification of the characteristic(s) for potential reduction, the inspection provision to be replaced, and an evaluation of the protection provided by the alternate methods as compared with the inspection requirement to be replaced.
 2. Evidence of process control and capability during production together with adequate criteria, measurement, and evaluation procedures to maintain control of the process.
 3. Assessment plan to periodically verify process stability and capability, and requirements for returning to normal acceptance.
 4. Corrective action plan to be implemented when evidence of loss of process control or significant process degradation arises. Evidence of loss of statistical control or degradation below a C_{pk} of 1.33 shall require immediate corrective action in accordance with the statistical process control program.
- D. Once the Government approves alternate acceptance methods, reports containing internally generated process control metrics shall be made available upon request.
- E. The Government will not consider requests for reduction or elimination of 100% acceptance inspection and testing of parameters or characteristics identified as CRITICAL.
- F. The Government reserves the right to withdraw approval of alternate acceptance methods the Government determines provide less assurance of quality than the inspection requirements originally specified or when the inability to maintain process stability and capability becomes apparent. Any break in production greater than 90 days shall require a return to normal acceptance inspection and testing.

VIII. DOCUMENTATION REQUIREMENTS

- A. Required documentation (e.g., QPP, ITP, SPC, Ammunition Data Cards) shall be submitted in accordance with applicable CDRL. The Contractor shall be responsible for any delays resulting from late submittals or delays resulting from submittal of inadequate documentation.
- B. Documentation shall be maintained and updated as necessary. Updates (changes/revisions) shall consist of notes or changes, clearly identified as to where applicable (i.e., system element, page, paragraph number, etc.) Updates shall be submitted in accordance with CDRL requirements.

TABLE 1- TEST AND INSPECTION REQUIREMENTS

NONDESTRUCTIVE TESTING	DEFINITION/CRITERIA	FIRST ARTICLE	PREPRODUCTION	PRODUCTION
Class A Welds	AWS D17.1	100% Radiographic and MT and IAW QAP section VI	25 Radiographic and MT	5 RT per lot plus MT Per MIL-STD-1916, VL-III
Class B Welds	AWS D17.1	100% MT and IAW QAP section VI	25 MT	5 MT per lot IAW QAP section VI
DESTRUCTIVE TESTING	DEFINITION/CRITERIA	FIRST ARTICLE	PREPRODUCTION	PRODUCTION
Peel Test	AWS D17.2 Spot Welds	3 samples from each destructively tested fin IAW AWS D17.2 and QAP section VI	None	3 per lot from 1 destructively tested fin or simulated samples, per weld type IAW AWS D17.2 and QAP section VI
Class B Seam Weld	AWS D17.2 Class B Seam Welds	1 sample per seam weld from each destructively tested fin IAW AWS D17.2 and QAP section VI	None	1 sample per seam weld from 1 destructively tested fin per lot and 1 production witness sample per every two hours of weld time IAW AWS D17.2 and QAP section VI

Note: All weld procedures are to be submitted to Navy Engineering. Weld procedures shall be IAW the requirements of each respective weld spec/standard.

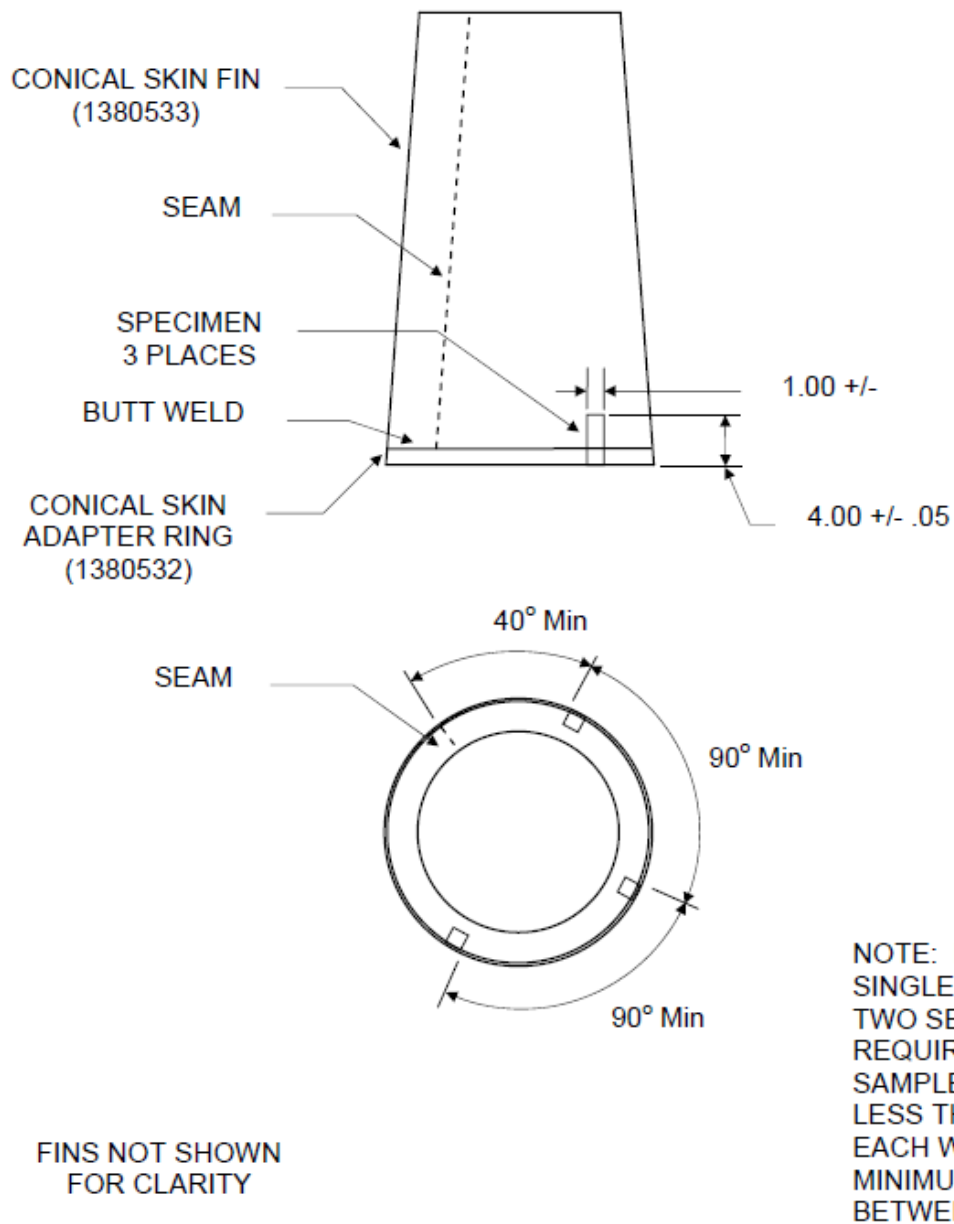


FIGURE 1. Size and Location of Butt Weld Specimens

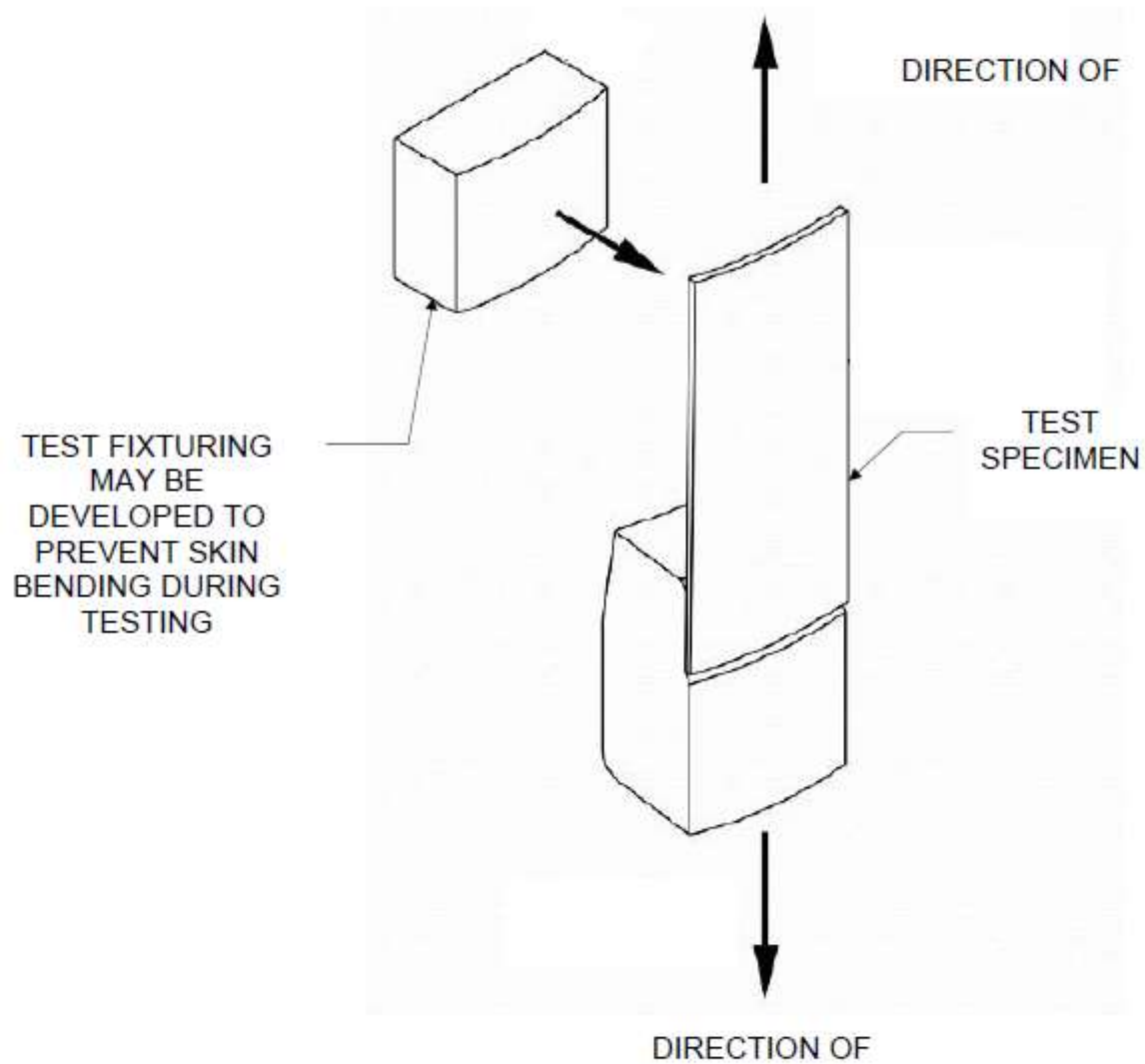


FIGURE 2. Arrangement of Butt Weld Specimen

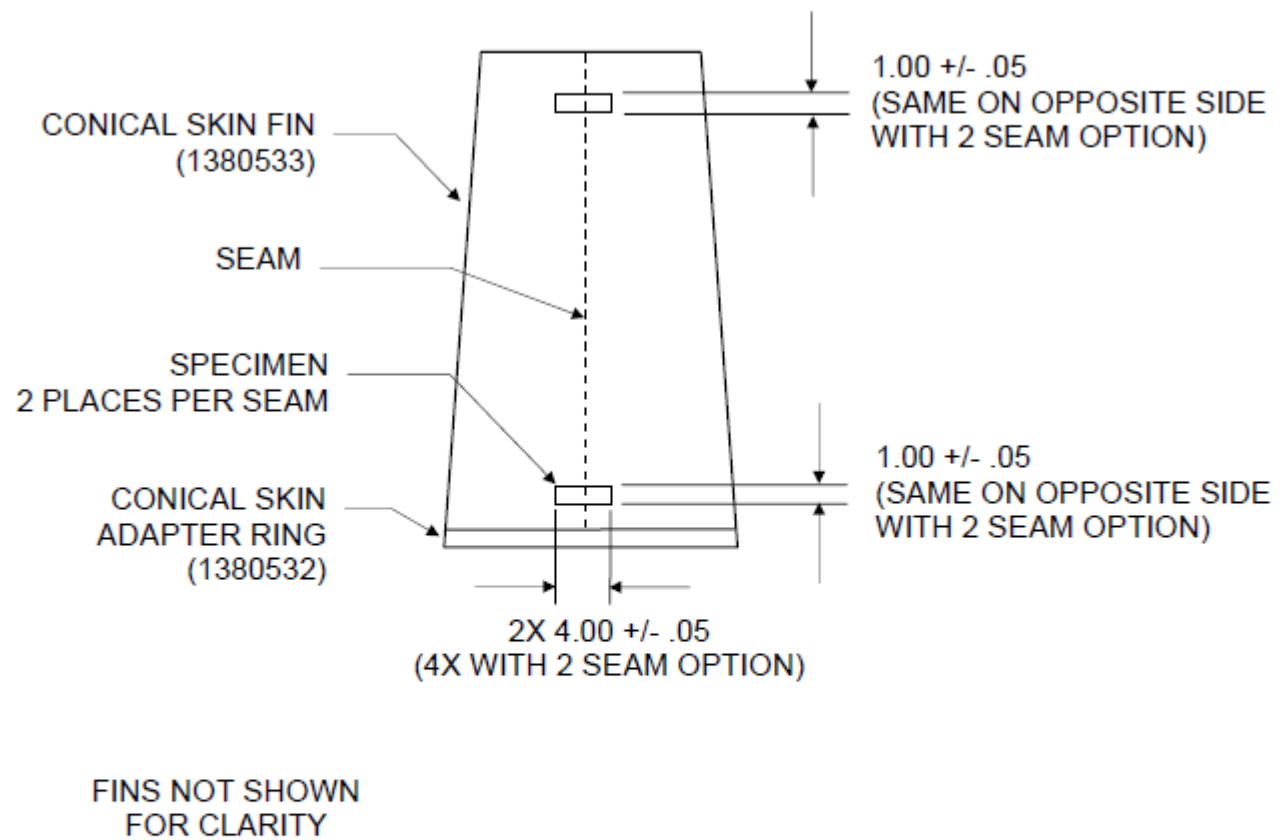


FIGURE 3. Size and Location of Seam Weld Specimens

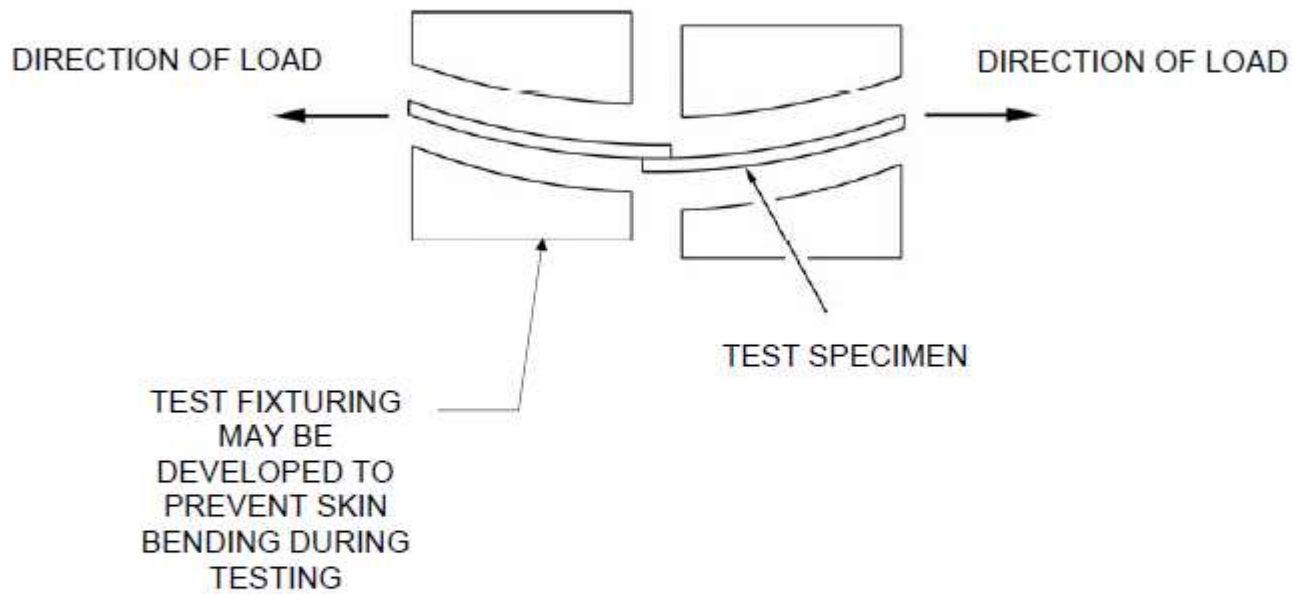


FIGURE 4. Arrangement of Seam Weld Specimen